3.0 Military Mission

3.1 OVERVIEW

This section describes the military mission of Fort Belvoir and the natural resources required to support the mission. In addition, this section describes the impacts of the military mission upon natural resources as well as the effects of natural resources and their management upon the mission.

3.1.1 Fort Belvoir's Military Mission

Fort Belvoir's military mission is to operate and maintain the installation; provide quality installation support and services to their customers; and plan, maintain, and execute mobilization readiness, military operations, and contingency missions (Fort Belvoir, 2000f). Since the departure of the Engineer School in 1988, the emphasis of Fort Belvoir's mission has shifted from training to providing logistical and administrative support to its tenants. Fort Belvoir is home to approximately 100 tenant and satellite organizations, including 20 Headquarters, Department of the Army agencies; nine major Army commands (MACOM); and eight non-Army activities (Fort Belvoir, 2000g). A U.S. Navy construction battalion, a U.S. Marine Corps detachment, a U.S. Air Force Activity, and a Department of the Treasury agency are also located at Fort Belvoir.

3.1.2 Mission Elements

Fort Belvoir's mission as presented in the installation master plan (Woolpert, 1993a) includes eight elements. These elements are described below.

- **Contingency Military Support.** Fort Belvoir provides contingency military support to the national capital region by supporting permanent party troops (e.g., Fort Belvoir Military Police Company, Military District of Washington Engineering Company, D Company 544th Engineer Battalion, 737th Explosive Ordnance Company, Headquarters Special Activities) and tenants, and by preparing them to accomplish their mission. Contingency support activities at Fort Belvoir include troop training, airfield operations at the Davison Army Airfield, the Defense Communications-Electronics Evaluation and Testing Activity (D/CEETA) communications operations, and the Night Vision and Electro-Optics Center (NVEOC) testing operations.

- **Regional Administrative Center.** As a Regional Administrative Center, Fort Belvoir provides support to host administrative tenants and regional organizations such as the Defense Logistics Agency, Civilian Personnel Operations Office, and various headquarters commands.

- **Regional Logistics Support Center.** As a Regional Support Center, Fort Belvoir supports activities such as supply, storage, maintenance, public works, and expanded light industry (e.g., petroleum, oil, and lubrication storage and motor pool activities).

- **Regional Recreation Center.** Fort Belvoir provides recreational programs and facilities such as fitness and recreational centers, two golf courses, a 105-slip marina, athletic fields, and picnic areas to eligible retired, reserve, and active-duty personnel and their dependents in the national capital region.

- **Regional Classroom Center.** Fort Belvoir hosts professional development and continuing education activities such as the Army Management Staff College, Defense Mapping School, and Defense Systems Management College.

- **Regional Housing.** Fort Belvoir supports Military District of Washington (MDW) and Fort Belvoir housing requirements for troops, family, and transient housing. Fort Belvoir has 2,070 family housing units and 530 rooms for temporary housing (Senires-Dubyak, 2000).

- **Regional Military Community Support.** Fort Belvoir provides community support to eligible retired, reserve, and active-duty personnel and their dependents in the national capital region through its exchange services, commissary services, credit union, banking, gas stations and convenience stores, and dining facilities.

- **Regional Environmental Stewardship.** Fort Belvoir provides protection for environmentally sensitive resources such as wetlands, mature forests, riparian habitats, and rare wildlife and vegetation communities that occur on the installation.

3.2 NATURAL RESOURCES NEEDED TO SUPPORT THE MILITARY MISSION

The different elements of Fort Belvoir's mission require various types and degrees of natural resources support. Fort Belvoir's natural resources provide high-quality settings for housing and administration facilities. It also contributes to the installation's Morale, Welfare, and Recreation Programs, which are aimed at increasing the quality of life for military and civilian personnel, who work and reside on post. The natural resources provide numerous opportunities for outdoor recreation activities for residents, day workers, neighbors, and the general public. Areas particularly conducive to passive recreation include extensive shoreline along navigable waterways, mature forest areas, and grasslands. Additionally, natural resources provide a realistic training and testing environment for meeting mission contingency support requirements.

The activities within the eight mission elements can be grouped into four general categories, each with its own natural resources needs. These are military field training/operations, cantonment facilities, outdoor recreation, and environmental stewardship. Most contingency military support activities fall into the category of military field training/operations. Cantonment facilities encompass most regional administrative, logistics support, classroom, housing, and community support activities, as well as indoor recreation. Outdoor recreation and environmental stewardship each have their own set of natural resource needs.

The use of Fort Belvoir's natural resources in military mission activities requires a broad range of natural resources management. These mission activities, and related natural resources needs and constraints are presented in Table 3.1. Existing natural resources on Fort Belvoir may influence the manner in which the military mission is executed. Certain topographic features, the presence of wetlands, or the presence of threatened or endangered species may limit certain military mission activities due to federal, state, and local compliance requirements. Regulatory requirements are summarized within the policy sections of each natural resources program component of this plan (Sections 7 through 13).

Table 3.1. Fort Belvoir Mission-Related Natural Resources Needs and Constraints

Key Mission Elements	*Natural Resources Needs*	*Natural Resources Constraints*
Military Training/Operations Aircraft overflight/airfield operations Smoke training Float bridge/fixed bridge training Orienteering Fire training Heavy equipment training Landing activities Defensive tactics training Wire obstacle training	Open areas Forested areas Vegetative cover Stabilized shoreline access Stabilized soils Clean water Freedom from vegetation and wildlife hazards	Erodible soils Steep slopes Wetlands Listed threatened and endangered species Migratory bird species Erodible shoreline
Cantonment Facilities Housing Administrative Community support Classroom Indoor recreation Infrastructure Research facilities	Buildable lands (slopes less than 4%, minimal vegetation) Stabilized soils Naturalized landscapes Pest control	Erodible soils Steep slopes Wetlands Floodplains Natural wildlife habitat and travel corridors Presence of mature trees Listed threatened and endangered species Migratory bird species
Outdoor Recreation Golf courses Marina Pedestrian trails Nature watching Nature photography and art Tennis courts, athletic fields, archery range Picnic areas Fishing Hunting	Fish and wildlife Natural vegetation areas Open areas Stabilized shoreline Stabilized soils Clean water	Erodible soils Steep slopes Wetlands Erodible shoreline Natural wildlife habitat Listed threatened and endangered species Migratory bird species
Environmental Stewardship Soils Water Vegetation Wildlife Designated conservation lands (wildlife refuges, forest and wildlife corridor)	Healthy native ecosystems	Size Habitat fragmentation Degraded stream corridors Invasive, exotic, and feral species Overabundant species Shrinking surrounding natural resource base Degradation of regional natural resources conditions Listed threatened and endangered species Migratory bird species

3.2.1 Military Training/Operations

U.S. Army Garrison, Fort Belvoir's training mission is to command, control, and operate Fort Belvoir and assigned and attached units; to provide installation support to authorized activities and personnel assigned to or located in the geographic support area of Fort Belvoir; and to plan and maintain mobilization readiness for U.S. Army Fort Belvoir (Rhile, 1998).

The military support activities on Fort Belvoir require various types of natural resources. Training units require realistic training environments. For example, the 464th Transportation Company (Medium Boat) U.S. Army Reserve performs ship-to-shore troop and materials transport and requires a natural shoreline on which to train. The 299th Engineering Company (Float Bridge) U.S. Army Reserve is responsible for creating floating bridges to cross streams and rivers, and requires access to open waters in which to train. The MDW Engineering Company requires terrain on which to train with grading and excavation equipment. The types of natural resources that are required to support the various training activities on Fort Belvoir are described below.

- Land navigation can be conducted on any sort of terrain. At Fort Belvoir it is conducted in Training Areas 6, 7, 8, and 9, which are primarily wooded (Figure 2.2).

- Training on fixed-wing aircraft and helicopter transport and helicopter touch-and-go is conducted at Davison Army Airfield. The runways and two helicopter landing pads require adequate clear zones (areas free of trees and other obstructions) to meet safety requirements. Vegetation surrounding the landing areas is maintained in a manner that does not encourage wildlife (e.g., deer, geese, and other birds). In addition to Davison Army Airfield, touch-and-go training is also conducted in cleared areas in Training Areas 16 and 9A (Figure 2.2). Wooded areas act as noise buffers around cleared areas.

- Common task testing, mission essential task list skills training, and expert field medical badge training require a maximum of 2 acres of open area or thinly wooded area for erecting temporary testing stations (i.e., folding tables and sun protection). This type of training does not involve ground disturbance.

- Mortar training requires a minimum 1- to 2-acre clearing, although a larger area may be used so that units can practice moving from point to point within the training area.

- Heavy equipment operations and wire obstacle training exercises are limited to Training Area 16, Grid UT13658840, which is a 2- to 3-acre clearing that is relatively level (Figure 2.2).

- Rescue training is conducted in the cantonment area and in Training Area 8 (Figure 2.2).

- Defensive tactics training requirements vary depending on the exercise; however, they do not involve ground disturbance. Generally, less than an acre is required to train a platoon. Fort Belvoir often uses areas for training that are either wooded or that have variable topography.

- Road march training is conducted on existing roads and trails.
- Fixed bridge training, which requires a land gap suitable for a bridge but no water access, will occur on Fort Belvoir in 2001 (Robinson, 2000).

3.2.2 Cantonment Facilities and Family Housing

Cantonment facilities occupy fixed sites on Fort Belvoir. They require the natural resources at their sites to be maintained and managed in such a way as to provide a visually pleasing setting and to preclude interference with ongoing mission operations and activities. Grounds in the cantonment area are typically landscaped with ornamental species, and landscape plantings are selected and maintained to eliminate hazards such as poisonous berry–producing shrubs at child-care centers and near family housing areas, and to conserve energy. The site terrain is modified to move stormwater drainage away from facilities. Pest management practices are conducted to deter problem wildlife and disease-carrying vectors from public areas and facilities.

3.2.3 Outdoor Recreation

Outdoor recreation facilities are critical to Fort Belvoir fulfilling its role as a regional recreation center and providing regional environmental stewardship. It is also important to enhance the quality of life of soldiers and military families. Recreational activities require many types of natural resources support. Some outdoor recreation facilities (e.g., golf courses, athletic fields, camping areas) require natural resources to be manipulated to support the recreational activity.

Fort Belvoir maintains two golf courses, a nine-hole course on the South Post and a 36-hole course on the North Post. The golf courses require 437 acres of vegetation maintained as turf, interspersed with patches of natural vegetation and landscape plantings. Maintenance of turf condition requires the use of selected grasses that are seeded, mowed, watered, and fertilized according to a strict regimen. Maintenance also requires control of turf-damaging pests, which range from fungi to wildlife. Landscape plantings are installed and maintained to enhance the visual character of the courses.

Fort Belvoir's marina is located on Dogue Creek, near the River Village and George Washington Village Housing areas. In general, marinas require a suitable shoreline condition with navigable waterway access. Water depths at the Dogue Creek Marina range from 3 feet at low tide to 6 feet at high tide (King, 1999). Marinas also require various developed facilities to support boating activities. The Dogue Creek Marina has two boat launch ramps, pump-out stations, and electric and water hookups. The visual character of the marina facility may be enhanced by natural vegetation along the shoreline or by landscape plantings; however, vegetation may be viewed negatively by marina operators and users when the vegetation precludes the use of areas for marina operations. Hazard vegetation removal and pest management activities are necessary to protect marina facilities and to enhance a boater's experience.

The Fort Belvoir Outdoor Recreation Office controls six soccer fields, one football field, and several softball fields. In general, athletic fields require maintenance of turf grasses for playing fields. Usually these areas are landscaped to provide wind and visual screens. They do require pest management for protection of turf integrity and vitality, and for control of weeds.

Fort Belvoir has several playgrounds, three picnic areas, an outdoor archery range and a Boy Scout camping area. These areas have similar natural resource requirements to the athletic fields. They also have landscape and natural vegetation management requirements for visual enhancement, diversified activities, and natural resource protection.

In contrast to the outdoor recreation activities above, hunting and fishing, as well as other recreation activities such as hiking, bird watching, and nature study require the installation to conserve areas of natural resources, and to provide facilities to support public access to such areas (Section 13).

3.2.4 Environmental Stewardship

Fort Belvoir possesses significant natural systems, including wetlands, shoreline, forests, grasslands, and many species of wildlife. The presence of these resources on the installation, relative to Fort Belvoir's geographic location in a growing metropolitan area, provides the installation with an opportunity to demonstrate how a U.S. Army facility can use environmentally sensitive, planned development to enhance its mission effectiveness, while preserving healthy ecosystems. Environmental stewardship on Fort Belvoir includes broader, regional environmental initiatives, such as those described in the Chesapeake Bay Program.

3.3 MILITARY MISSION EFFECTS ON NATURAL RESOURCES

As the major administrative and logistics center for the northern Virginia portion of MDW, the installation primarily provides housing and administrative support. This role results in continued development on-post as the installation becomes host to additional tenants, as well as housing and community support facilities. While the emphasis of the Fort Belvoir military mission has shifted from engineer training to logistical and administrative support, military training remains as one of eight mission elements as discussed in Section 3.1.2. Effects from continued development and training are minimized through Fort Belvoir's master planning process, the National Environmental Policy Act (NEPA) process, and the implementation of Fort Belvoir Regulation 210-70 (*Range Procedures and Utilization of Training Areas*).

The Fort Belvoir Real Property Master Plan, Long-Range Component (Woolpert, 1993a) establishes the future direction for development on-post. The long-range component of the plan also establishes goals, objectives, and policies to ensure that natural resources are protected and managed in ways that are compatible with Fort Belvoir's military operations and that support the Army's Communities of Excellence Program.

A companion document of the *Fort Belvoir Real Property Master Plan* is the *Installation Design Guide* (Woolpert, 1995). This guide provides a comprehensive and coordinated design framework through the establishment of design principles, design guidelines, and detailed plans. The framework reinforces the distinctive identity of Fort Belvoir's physical and visual elements, including its buildings, streetscapes, waterfront, and large areas of open space. New development or redevelopment on Fort Belvoir must meet the criteria of the *Installation Design Guide*.

NEPA requires review of federally supported activities to determine their potential impact on the environment. NEPA is designed to identify potential environmental problems early in the planning process so the proponent of the action can resolve problems in the early stages of project development. Army Regulation (AR) 200-2 (*Environmental Effects of Army Actions*) sets forth policy, responsibilities, and procedures for integrating environmental considerations into Army planning and decision making. Fort Belvoir Regulation 210-70 provides specific requirements for environmental protection and conservation of training areas.

The following sections provide an overview of impacts that could arise from the various types of mission activities at Fort Belvoir. These impacts do not necessarily occur at Fort Belvoir.

3.3.1 Military Training/Operations

Military training activities occurring in undeveloped lands at Fort Belvoir have the potential for disturbing land and water areas and can result in the removal of vegetation, destruction or modification of wildlife habitat, alteration of surface water drainage patterns, and soil erosion. Training that requires the use of installation shoreline can result in shoreline erosion. This includes the 464th Transportation Company's practice with ship-to-shore landing craft, and the 299th Engineering Company's float bridge training. In addition to disturbances from shoreline erosion, certain training activities have the potential for causing fires. Historical records indicate that approximately two mission-related fires occur each year, usually resulting from the use of smoke grenades and vehicle and machine operation in training areas and other off-road areas. Fires that escape control can cause habitat damage, resulting in the movement of wildlife away from the damaged area.

Operations at the Davison Army Airfield require removal of woody vegetation within designated clear zones around the airfield, and control of wildlife species such as deer and waterfowl, which are deemed hazardous to airfield operations. Operations at D/CEETA and the NVEOC require the maintenance of a secure perimeter fence that can preclude wildlife movement through their grounds.

Sources of potential chemical releases from military activities include airfield operations such as de-icing fluids and aqueous-film-forming foam and accidental spills from equipment and vehicles. Release of toxic chemicals can have adverse effects on terrestrial and aquatic wildlife and plants. The fire department is the first to respond to all spills. Most spills are fuel spills.

Noise emissions from military activities include aircraft overflights from Davison Army Airfield, and float bridge training and landing craft operations along the Gunston Cove shoreline. Depending upon the frequency of occurrence and the volume, noise emissions can cause wildlife to move out of nearby areas.

3.3.2 Cantonment Facilities and Family Housing

Construction of new administrative centers, classrooms, military community support centers, logistics support centers, housing units, or other facilities can result in the loss or fragmentation of natural habitat and can inadvertently create habitat for problem wildlife species such as starlings, pigeons, raccoons, and feral cats. Landscape plantings can result in unintentional introduction of invasive exotic vegetation. Site development can alter drainage patterns resulting

in soil erosion or downstream flooding. Adherence to Fort Belvoir's master planning process and design specifications reduces the potential for such adverse effects on natural resources.

Operation and maintenance of support facilities can adversely affect natural resources. Maintenance of turf and landscape plantings can result in release of fertilizers and pesticides, and excessive water use through irrigation. Employee activities, such as driving or parking off the pavement, can adversely affect existing site resources, such as mature trees, through compaction of soils or mechanical damage.

Housing area activities can also affect wildlife through indiscriminate removal of vegetation, inappropriate use of household and yard chemicals, feeding and enticing wildlife, failure to contain household pets, and release of nonnative plants or animals.

3.3.3 Outdoor Recreation

Outdoor recreation facilities (e.g., golf courses, marinas, playing fields) and activities (e.g., hunting, fishing, hiking, nature watching, organized outdoor events) have the potential for causing natural resources impacts.

Fort Belvoir's two golf courses and athletic fields require large areas of highly managed and manipulated grounds. Turf management operations can result in the release of fertilizers and pesticides. Protection of turf may necessitate measures to deter or remove problem wildlife. The use of groundwater for irrigation can result in locally depressed groundwater levels.

The Dogue Creek Marina displaces natural shoreline conditions and has the potential for affecting natural resources through accidental fuel and oil spills or discharges, noise from watercraft operation, disturbance of wildlife along shorelines by watercraft, and shoreline erosion or accretion due to altered hydrologic patterns.

Outdoor recreation events have the potential to disturb sensitive natural resources. Fishing can result in the release of exotic species that are used for bait.

Unmanaged, large scale foot traffic off established trails has the potential to introduce large-scale foot traffic into undeveloped natural areas where such activity has the potential to destroy vegetation, disturb ground surfaces, and disrupt wildlife. Fort Belvoir hosts about six volksmarches a year.

3.3.4 Environmental Stewardship

Environmental stewardship has a positive effect on local and regional ecosystems. It provides for the conservation and enhancement of natural systems. Fort Belvoir's stewardship also benefits natural resources within a larger, regional area.

3.4 FUTURE MILITARY MISSION EFFECTS ON NATURAL RESOURCES

At present, the focus of Fort Belvoir's support of tenants and the military community in the National Capital Region is shifting away from field training and toward administrative and

community support activities at Fort Belvoir. Increased logistical and administrative support will place further demands on the natural resources through increased land development, such as more office buildings and landscaped areas, increased military housing, new and expanded community support facilities, and more recreational opportunities. (New facilities planned for construction in support of the mission are discussed in Section 4.) Additionally, continuing population growth will increase the demand for and use of Fort Belvoir's natural areas for outdoor recreation. Increased development of Fort Belvoir will require a greater emphasis on environmental stewardship so Fort Belvoir can continue to carry out its military mission without adversely affecting natural resources. Efforts will continue to be made to direct future development toward previously disturbed areas in accordance with the installation's master plan. Efforts will also continue to be made to balance competing demands for access to installation natural resources, consistent with resource conservation requirements.